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GEN Docket No. 90-314
ET Docket NO. 92-100

Amendment of the Commission's Rules to Establish New Personal Communications Services

COMMENTS OF CELLULAR COMMUNICATIONS, INC.

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Summary

Cellular Communications, Inc. ("CCI") submits that the Commission's goals of efficient introduction of personal communications services ("PCS") can be best accomplished in a manner most adaptable to the public interest if the maximum feasible number of service providers can be licensed in each geographic area. The public interest in competition would be hurt by excluding any class of existing marketplace operators, especially current providers of cellular telephone service. Furthermore, economic analysis of the marketplace does not provide a sound basis for the exclusion. The regulatory cost of introducing the new service will be lowered by licensing PCS for geographic areas corresponding to the Rand McNally major trading areas. However this would be appropriate only if cellular licensees are allowed to apply for PCS licenses within their markets. Otherwise, the inefficiently small areas defined by MSA/RSA borders must be used.

CCI recommends the use of public oral auctions for spectrum allocation to reduce administrative burdens, to expedite the distribution of licenses to providers who will use them most efficiently, and to maximize public

benefits. The Commission should consider PCS licensees to be "co-carriers" along with wireline and cellular service providers and implement mandatory, nondiscriminatory interconnection. PCS will develop most efficiently if the Commission regulates it as private radio and pre-empts state regulation, but in so doing, the Commission should re-examine the entire personal information marketplace and restructure regulation so that all players compete on a level field.

Before the
FEDERAL COMMUNICATIONS COMMISSION
Washington, D.C. 20554

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In the Matter of)	GEN Docket No. 90-314
)	ET Docket NO. 92-100
Amendment of the Commission's)	
Rules to Establish New Personal)	
Communications Services)	
_____)	

To: The Commission

COMMENTS OF CELLULAR COMMUNICATIONS, INC.

Cellular Communications, Inc. ("CCI"), by its attorneys, respectfully submits its comments in response to the Notice of Proposed Rule Making and Tentative Decision ("NPRM") issued in the above-captioned proceedings to amend the Commission's rules to establish personal communications services ("PCS").¹

I. THE COMMISSION SHOULD ALLOW THE MAXIMUM NUMBER OF LICENSEES TO PROVIDE PCS IN EACH MARKET.

Several factors will affect the optimum number of PCS licensees in a given market, including the vari-

¹ 7 F.C.C. Rcd. 5676 (1992). CCI, a long-term cellular license, currently provides nonwireline cellular service primarily through a joint venture between it and PacTel Corporation in over 20 markets in Ohio and Michigan.

able services PCS will eventually offer and technological developments still in the making. It would be premature for the Commission to settle upon a specific market structure prior to the development of these issues.

The Commission has defined PCS as a family of communications services² that create new markets and provide competition in others through flexibility and functionality.³ Both the Commission and the industry recognize that "PCS" is not yet a well-defined business and that the spectrum licensed under this name can be developed in a variety of ways. At this early stage of PCS development, therefore, the Commission is wise to allow malleability so the medium can develop according to the needs of the public and the capabilities of the still-evolving technology.

Because PCS seems able to come to fruition into so many different kinds of communication services, CCI believes that the greater the number of service providers, the higher the probability that the various consumer needs will be satisfied through competitive offerings. A high degree of product differentiation within the PCS

² NPRM, at 5689.

³ Id., at 5678.

marketplace will better serve the public interest than competition based on price alone. In PCS, as in existing communications fields, there will probably be a "mass market," with common, generalized needs, but there will also be market segments specialized by reason of profession, geography, personal needs,⁴ or other factors. As the number of service providers increases and each provider's slice of the mass market shrinks, PCS service providers will be more likely to target the needs of these smaller, specialized market segments.

The Commission invited comment on the merits of authorizing four or five PCS operators in each market.⁵ At this point in the development of the medium, CCI submits that it is too early for the Commission to know the perfect number of PCS licenses to award in each market. Because the technology -- as well as the services to be provided -- is still evolving, the spectrum demands of specific uses are still largely unknown.⁶ Since there are certain inefficiencies imposed by dividing the spec-

⁴ E.g., equipment with electronic speech synthesis for persons with speech disorders.

⁵ Id., at 5690.

⁶ Witness the Pioneer Preference Proposals in Docket 92-100, which ranged in bandwidth from 5 kHz to 150 kHz per channel. NPRM, at 5760-5761.

trum, the Commission should determine the number of licensees that maximizes the quantity of competitors without crippling their operations with excessively inefficient bandwidth allocations.

In addition to the purely technical considerations, economic principles should play a prominent role in the Commission's decision. Every additional player in the personal information services marketplace has the potential to contribute to the development of this as yet unformed service. CCI recognizes that in addition to the spectrum inefficiency inherent in any allocation to multiple licensees, the extensive capital costs of setting up a PCS system could dissuade potential market entrants when anticipated revenues are diluted beyond the point of sufficient profitability. The United Kingdom made this mistake by authorizing four companies to provide CT-2 service.⁷ The market for this limited subset of PCS was overestimated, resulting in losses for all competitors

⁷ The CT-2 problem was particularly acute because there was a good deal of evidence that CT-2 was a "technology looking for a market." Four potential competitors splintered the UK market to the degree that no single firm believed it would have the chance to serve the market at acceptable costs. Inasmuch as PCS itself is not yet well-defined, a similar concern should be a part of the Commission's decision-making process here.

and eventually, the failure of the entire service.⁸ In this country, the authorization of FM Docket 80-90 "drop-in" stations led to an onslaught of competitors in geographic areas already saturated with advertising media. Many of these new stations floundered and resulted in reduced profits for existing stations as well, with concomitant reductions in public service within those markets.⁹

Furthermore, technological advances are constantly yielding more efficient spectrum uses. Not long ago the car phone was the rare prize of a fortunate few; cellular systems have made it a common business and personal tool. Microcell systems will increase the number of PCS users by even higher factors. By investing in more cells to accommodate lower-powered phones and converting to digital signal processing, CCI and other cellular providers are able to serve additional consumers within the authorized spectrum. As recently as last month, the Commission granted a pioneer preference for a system that would allow PCS to share spectrum with exist-

⁸ See, "Cellular Wars," Computergram International, 18 (24 August 1992).

⁹ See, e.g., Revision of Radio Rules and Policies, 7 F.C.C. Rcd. 2755, 2757 (Report and Order, 1992).

ing licensees in the 1850-1990 MHz band.¹⁰ Finally, although three years ago engineers were hard pressed to cram the signal for a high definition television picture and enhanced stereo sound within 12MHz,¹¹ a year later the Commission noted that technical developments allowed it to limit its consideration to spectrum-efficient systems that used only 6 MHz.¹² Recently, the Commission directed its ATV Advisory Committee to study emerging digital signal processing technology that could compress video signals even further.¹³

These and similar technological achievements will have a definite impact on the number of PCS providers that may effectively serve a geographic market. Al-

¹⁰ American Personal Communications' Frequency Agile Sharing Technology. Report No. DC-2240 in Gen. Docket 90-314, (released 8 October 1992).

¹¹ See Malt, "Systems Vie for Status as U.S. Standard," Electronic Media, 33 (23 October 1989).

¹² Advanced Television Systems and Their Impact Upon the Existing Television Broadcast Service, First Report and Order, 5 F.C.C. Rcd. 5627, 5628 (1990).

¹³ Advanced Television Systems and Their Impact Upon the Existing Television Broadcast Service, Memorandum Opinion and Order/Third Report and Order/Third Notice of Proposed Rule Making in MM Docket No. 87-268, at 62 (Rel. 16 October 1992). See also, Second Report and Order/Further Notice of Proposed Rule Making, 7 F.C.C. Rcd. 3340, 3362 (1992).

though today five licensees may appear to "stuff" the available spectrum, history demonstrates that technology will serve the need for expansion. Balancing all these considerations and taking into account the dramatic public benefits that will flow from a vibrantly competitive local telecommunications services market, CCI believes that the Commission should decide in favor of allowing the maximum number of spectrally feasible entrants at the start of the services because once channels are allocated and construction begins, it will be difficult to rearrange the industry to allow more players.

II. CELLULAR LICENSEES SHOULD BE ABLE TO COMPETE AS PCS PROVIDERS IN ALL MARKETS.

Once the Commission opens the PCS marketplace to as many competitors in each geographic area as the spectrum and demand can sustain -- and necessary interconnection terms and conditions have been precisely specified -- there is no economic justification for prohibiting any entity from entering the market on the basis of its other businesses or operations, whether in the same location or elsewhere.

In the NPRM, the Commission proposes restrictions on cellular licensees and landline local exchange

carriers ("LECs") in markets where these entities have an established presence.¹⁴ The PCS spectrum allocations provide a platform for services that will augment as well as compete with services now provided by cellular system operators, LECs, and cable companies in addition to paging services, Advanced Messaging Services ("AMS"), Specialized Mobile Radio ("SMR") operators, and potential competitors utilizing Low Earth Orbit Mobile Satellite Services ("LEO-MSS"). While each medium will be distinct, this broad panoply of market players will prevent the assumption and misuse of market power by any single multi-service provider. The Commission can secure the broadest range of public benefits by opening the marketplace to competition among all these providers.

Companies currently providing communications services in a geographic market have built and invested in personnel, goodwill, and infrastructure. They know the peculiarities and mobile wireless needs of the localities they serve. This type of market-specific knowledge

¹⁴ Confirming the lack of support for this proposal, the NPRM correctly does not propose similar restrictions for cable television systems, despite the fact that the Commission has authorized tests and reviewed results where cable lines have served as interconnection networks for microcellular PCS operations.

and involvement is precisely the kind of factor the Commission has encouraged for decades.¹⁵ Additionally, the Commission previously addressed the same issue when it defined entry requirements in the cellular service, weighing the possibility of less competition against the public benefits from including established and experienced providers. At that time it determined that the public could best be served by allowing LECs to participate in the new service. Indeed, in that case the Commission went well beyond the decision to permit local carrier involvement to the less compelling conclusion of guaranteeing it.¹⁶

CCI and other cellular providers have invested millions of dollars and years of research and development time in building their existing wireless communications systems. This investment includes geographic, consumer

¹⁵ See, e.g., Advanced Television Systems and Their Impact upon the Existing Television Broadcast Service, Second Report and Order / Further Notice of Proposed Rule Making, 7 F.C.C. Rcd. 3340, 3343 (1992) (Existing broadcasters have the know-how and experience to implement new technology swiftly and efficiently, and have invested considerable resources and represent a large pool of experienced talent.)

¹⁶ Cellular Communications Systems, 86 F.C.C.2d 469, 483 (1981).

preference, and market studies as well as facilities and personnel. Much of this experience and infrastructure is readily adaptable to the provision of new PCS services. Engineering maintenance, billing, and customer service operations, for example, could be expanded to accommodate PCS rather than being built from the ground up. Ultimately the consumer will benefit from the swift implementation of the service and lower costs derived from consolidated overhead. Any rule that restricts the public's access to the benefits of these economies of scope and reduces entry into the marketplace is in itself anticompetitive and consequently cannot be in the public interest.

Although the benefits of wide consumer choice are best served by facilitating the greatest number of PCS providers, as CCI recommends, even if only three PCS licenses were granted in each geographic area, the marketplace does not become uncompetitive merely because existing cellular providers are eligible for those licenses. Once again, the Commission must consider the broadly defined personal information marketplace. The consumer is unlikely to care whether his messages are exchanged via PCS, cellular, SMR, or LEO-MSS frequencies. What matters are availability, convenience, speed, accu-

racy, and price. If LECs and cellular licensees are allowed to compete for PCS frequencies, in any subsector of the personal information service market there would still be competition on these factors from multiple providers.

In a worst case situation, where PCS were to develop as nothing more than an extension of cellular, only three licenses are awarded in each geographic area, and two of the three go to current cellular providers, the competitive situation would still be improved because the cellular licensees' share of the overall market would be reduced. Indeed one study indicates that the addition of entrants beyond the third does not materially increase the competitiveness of the market beyond the situation in which three parties compete.¹⁷ Thus, even if the Commission licenses only three PCS providers, and even if the existing local cellular operators win two of the three

¹⁷ Kwoka, "The Effect of Market Share Distribution on Industry Performance," 61 Review of Economics and Statistics, 101-109 (Feb. 1979). More likely, with four, five or more PCS licenses awarded in each market and with existing cellular licensees providing more traditional, analog cellular services on much of their frequencies, a cellular licensee's share of the PCS market will be reduced even further, particularly when taking into account SMR, MSS and other wireless service providers.

licenses, competition will be enhanced materially by the presence of the third competitor.

The Commission's reluctance to allow cellular providers to enter PCS in markets where they already operate is based on alleged antitrust concerns.¹⁸ This reluctance, however, is tempered by the Commission's knowledge that participation by cellular providers and others would provide economies of scope and greater production efficiencies.¹⁹ Moreover, modern economic studies weigh heavily toward making cellular providers eligible for PCS frequencies.

One such study demonstrated that while two similar-sized market participants may be capable of coordinating prices and output enough to increase price-cost margins above competitive levels, the addition of a third firm breeds a rivalry capable of simulating competitive performance levels.²⁰ Another applied a game theory approach to cooperation phenomena in oligopolistic markets. The research found that when some, but not all, players form a coalition, the non-cooperating market

¹⁸ NPRM, at 5702.

¹⁹ Id.

²⁰ Kwoka, supra note 18.

participant gets the highest game "payoff." Because all players want the highest return, the stable market structure, the one most likely to evolve in a competition between rational profit-maximizing decision makers, is the situation where all firms remain separate and do not cooperate in setting prices.²¹ One possible explanation for this phenomenon is the fear of getting caught in collusion, punishable through fines, imprisonment, and treble damage awards. A rational decision maker cannot evaluate the payoff matrix of collusion without considering these factors. In fact, because the likelihood of discovery is greater in marketplaces with few participants, two economists for the Department of Justice found that collusion is actually less likely with only two or three firms.²²

These studies indicate that the NPRM's primary justification for excluding current cellular licensees

²¹ Sherali and Rajan, "A Game Theoretic-Mathematical Programming Analysis of Cooperative Phenomena in Oligopolistic Markets," 34 Operations Research, 683 (September-October 1986); referencing coalition formation techniques described in Hart and Kurz, "Endogenous Formation of Coalitions," 51 Econometrica, 1047-1064 (1983).

²² Werden and Baumann, "A Simple Model of Imperfect Competition in Which Four are Few but Three are Not," 34 Journal of Industrial Economics, 331 (March, 1986).

from PCS, i.e., eliminating or preventing anticompetitive behavior, is not an appropriate basis for the wholesale exclusion of an entire class of competitor. The recent history of cellular reinforces the benefits that the public has derived from the active participation of large multi-system operators. While myriad small entrepreneurs may have won licenses in lotteries, often their participation was merely as speculative treasure hunter and only after selling to dedicated multiple system owners were the systems constructed and brought to full operational capacity. Excluding these cellular operators without clear evidence of imminent danger to the public would be a major mistake.

It would also be erroneous to require operational separation on the part of current cellular providers as a prerequisite for entry into the PCS market. The Commission originally required wireline carriers to establish separate subsidiaries in order to offer cellular service.²³ On reconsideration, however, the Commission found that the costs this imposed upon the carriers outweighed the public benefits and that this provision actu-

²³ Cellular Communications Systems, 86 F.C.C.2d 469, 493 (1981).

ally worked a hardship on smaller carriers, eliminating them as potential competitors. The requirement was eliminated for all carriers except for AT&T.²⁴ If the operational separation was inappropriate for wireline companies who were guaranteed set-aside allocations, it would be even less warranted for cellular licensees who only seek the possibility of market entry at this point and who would enjoy no control of bottleneck facilities essential to PCS development.

III. THE MOST EFFICIENT GEOGRAPHIC MARKET STRUCTURE
REQUIRES ALLOWING CELLULAR PROVIDERS TO ENTER THE
PCS FIELD.

The Commission's decision on the size of PCS geographic markets should avoid the administrative waste and delay that would follow from establishing too many small service areas. Markets should be large enough to permit licensees to capture all available economies of scale and serve integrated natural and political communities. If, however, the Commission nevertheless disqualifies certain classes of potential licensees from an area solely because of their status as providers of LEC or

²⁴ Cellular Communications Systems, 89 F.C.C.2d 58, 78 (1982). This requirement was shifted to the Bell Operating Companies following their divestiture from AT&T. See 47 C.F.R. § 22.901(b)-(d).

cellular services, it would be arbitrary and capricious to extend this anticompetitive disqualification to encompass territories in which the LEC or cellular provider is not operating.

The Commission noted that the division of the nation into 734 metropolitan and rural service areas for the cellular service resulted in an unwieldy and time-consuming administrative tangle. The wasted efforts became even more obvious as mergers and system sales consolidated the industry within the control of a number of large firms, each serving substantial portions of the country.²⁵ Hence, a majority of systems, including both wireline and nonwireline systems, consist of multiple MSAs or RSAs rather than the individual markets originally designated by the Commission. While the experience of the cellular industry may be illustrative, PCS is not cellular service and no firm conclusions can automatically be drawn from the development of that industry. Nevertheless, CCI agrees that the most appropriate approach would be to license larger geographic areas at the outset.

²⁵ NPRM, at 5699.

While not developed to measure mobile traffic patterns, the Rand McNally Major Trading Areas ("MTAs") have been designed to reflect economic data concerning areas that are economically intergrated. Thus, MTAs may offer significant benefits as the appropriate method of market division for PCS. The reduction in the number of markets that would have to be licensed, from 734 to 47 is by itself significant. If there are operational efficiencies inherent in larger service areas, these savings would eventually be passed on to consumers in lower service bills. Rand McNally constructed the MTAs based on an intensive study of such factors as physiography, population distribution, newspaper circulation, economic activities, highway facilities, railroad service, suburban transportation, and field reports of experienced sales analysts.²⁶ These factors make it likely that PCS subscribers will use most of their services within single MTAs; this is in the public interest because it permits the customer to avoid "roaming" into adjacent MTAs, which the cellular experience indicates will impose in-

²⁶ Rand McNally 1992 Commercial Atlas and Marketing Guide, 123rd Edition, pg. 39.

creased transactional costs.²⁷ As another example of cost efficiencies, the advertising efforts that a licensee must mount to educate consumers on the advantages and uses of PCS would be most economical when presented on media whose effective market is coterminous with that of the licensee.

But the MTAs are radically different from the cellular service MSA/RSAs and the regional consolidations that have developed. Once the initial cellular licensees were chosen, the factors affecting consolidation were not the same as those which would determine market boundaries in a rational process free of artificial constraints. Therefore, current cellular licensees will have some presence in MTAs where objectively they bear absolutely no threat of market power. For example, a joint venture owned 50% by CCI operates a cellular system serving the MSAs of Cincinnati and Dayton, Ohio. Both are within the

²⁷ In cellular, roaming into "foreign" systems often results in significantly increased costs for consumers. Although several MSA system operators, particularly multiple-market system operators, have sought to lower these charges, many stand-alone RSA systems persist in seeking to maximize their revenue from captive transient customers (often ill-serving the needs of local subscribers) with exorbitant roaming surcharges. The Commission should avoid empowering such speculators by designing markets that reflect the actual usage patterns of subscribers.

Rand McNally Cincinnati MTA. This MTA, however also includes most of West Virginia and even three counties in the state of Virginia. If cellular licensees were excluded from offering PCS in areas where they currently operate, and if the areas were defined as MTAs, then CCI would be excluded from far more geographic territory than its current cellular service area. Some large multi-system cellular operators, with much to offer the PCS market and which have already tested PCS, could conceivably be excluded from the entire PCS business.

American Personal Communications ("APC") addressed this issue in comments filed with the Commission in this docket.²⁸ APC proposes a factoring system based on the percentage of population within an MTA served by a current cellular licensee, similar to the system the Commission now uses for ownership attribution. This proposal, however, is completely inconsistent with whatever justification there might be for excluding cellular licensees in the first place. Using the Cincinnati MTA again as an example, because the CCI-affiliated system in the Cincinnati and Dayton MSAs serves a large percentage

²⁸ See Letter of Wayne N. Schelle, APC Chairman, to Chairman Sikes, 17 September 1992.

of the population within the MTA, CCI would be precluded from offering PCS to those three counties in Virginia, where it would represent new competition with resources sufficient to implement an effective system. On the other hand, the current cellular provider in other cellular markets within the Cincinnati MTA, who serve a relatively small portion of the entire MTA's population, would be able to offer PCS and cellular in these other areas as well as in Cincinnati and Dayton.

By the very nature of market definition principles, there is no way the Commission could designate geographic boundaries other than MSA/RSAs without inflicting the same harm on current cellular licensees. For this reason, any other market division would be arbitrary and capricious when accompanied by the exclusion of current cellular providers. The Commission's reasons for choosing larger PCS areas are reasonable and supportable, but they are only appropriate if cellular licensees are allowed to compete in all PCS areas on equal footing with others.

IV. PCS LICENSES SHOULD BE AWARDED THROUGH OPEN, PUBLIC, ORAL AUCTIONS.

The Commission has already determined that comparative hearings would be inappropriate for PCS.

Lotteries also have inherent problems. As the Commission witnessed at the opening of other frequencies, lotteries have become "treasure hunts" for speculators who have no apparent legitimate interest in developing and operating communications systems.²⁹ While the Commission has taken significant steps to deter speculation, none can be as effective as making potential licensees back their commitments to spectrum use and public service with cold, hard cash.

Efficient spectrum use requires transferability of licenses; otherwise holders who are unwilling or incapable of developing and using the service will preempt more effective users. In a system operated for profit, the most efficient user will also place the highest value on the spectrum. A license awarded through lottery or comparative hearing is not necessarily awarded to the party holding the highest valuation for the license. Although the party holding the highest valuation will likely eventually obtain the license, as has been the case in cellular, that results in higher transactional

²⁹ Amendment of Part 90 of the Commission's Rules to Provide for the Use of the 220-222 MHz Band by the Private Land Mobile Radio Services, 7 F.C.C. Rcd. 898 (1992) (Further Notice of Proposed Rule Making).